

**DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION**

5A2
Revision 21
CESSNA
140A
March 31, 2003

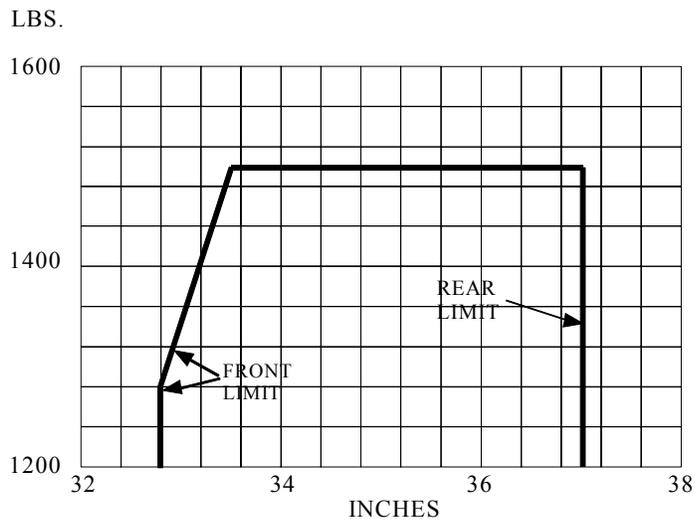
AIRCRAFT SPECIFICATION NO. 5A2

An aircraft complying with the terms of this specification and conforming with the approved data on file with the Civil Aeronautics Administration will be issued an airworthiness certificate when, in the opinion of the Administration, the aircraft is in condition for safe operation.

Manufacturer	Cessna Aircraft Company P. O. Box 7704 Wichita, Kansas 67277
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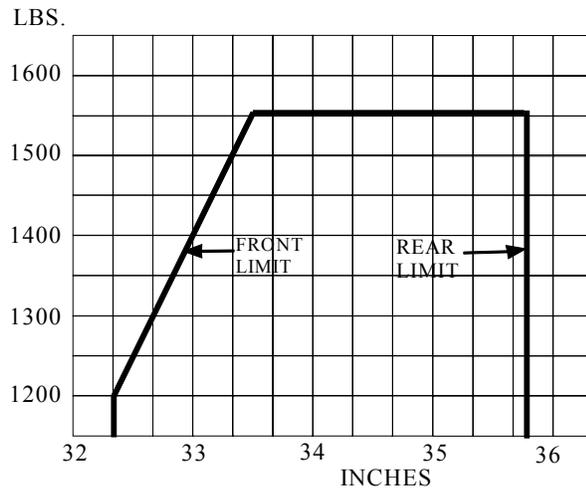
I - Model 140A, 2 PCLM (Utility Category), Approved April 8, 1949, 2 PCSM, Approved June 17, 1949.

Engine	Continental C-90-12F (See Items 106 and 107 for optional engines)	
Fuel	80 min. octane aviation gasoline (See NOTE 3 for alcohol-based fuels warning.)	
Engine limits	For all operations, 2475 rpm (90 hp)	
Airspeed limits	Landplane: Maneuvering	106 mph True Ind.
	Maximum structural cruising	115 mph True Ind.
	Never exceed	140 mph True Ind.
	Flaps extended	82 mph True Ind.
	Seaplane : Level flight or climb	105 mph True Ind.
	Glide or dive	140 mph True Ind.
C.G. range	Landplane: Flaps extended	82 mph True Ind.
	Landplane: (+33.5) to (+37.0) at 1500 lbs.	
	(+32.8) to (+37.0) at 1279 lbs. or less Straight line variation between points given.	



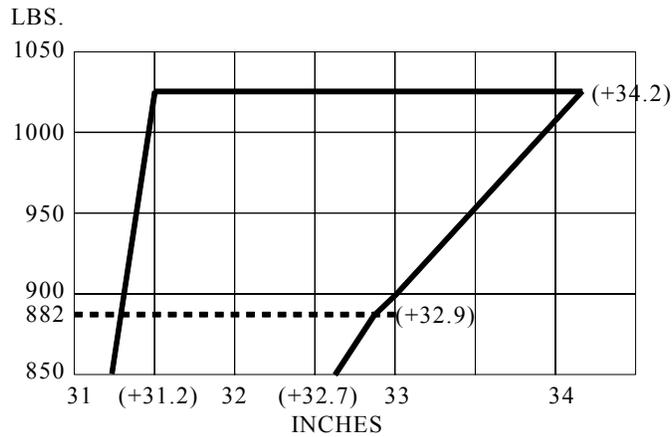
Page No.	1	2	3	4	5	6
Rev No.	21	19	20	18	19	21

Seaplane : (+33.5) to (+35.7) at 1556 lbs.
 (+32.3) to (+35.7) at 1195 lbs. or less.
 Straight line variation between points given.



Empty weight C.G. range

Landplane: (+31.2) to (+32.7)
 (Based on pilot and passenger weight of 190 lbs.
 (CAR 3.113)).



When Empty Weight C.G. falls within this range computation of critical fore and aft C.G. positions is unnecessary. Range is not valid for non-standard arrangements.

Seaplane : None

Maximum weight

Landplane or skiplane: 1500 lbs.
 Seaplane (with item 209a): 1556 lbs.

No. of seats

2 (+40) See item 403 for jump seat.

Maximum baggage

80 lbs. (+64). See item 403 for reduction in baggage when jump seat installed.

Fuel capacity

25 gals. total (Two 12.5 gal. tanks in wings (+42), 10.5 gal. usable in each tank). See NOTE 1 for unusable fuel and Item 108 for optional fuel tanks.

Oil capacity

5 or 6 qts. (-13)

Control surface movements	Elevator	Up	20°	Down	20°
	Elevator tab	Up	6°	Down	33°
	Rudder	Left	16°	Right	16°
	Aileron	Up	20°	Down	14°
	Flaps			Down	43°
	Stabilizer	Fixed			
	Serial Nos. eligible	15200 through 15724			
Required equipment	In addition to the pertinent required basic equipment specified in the applicable regulations (CAR 3 or 4a) the following items of equipment must be installed: Landplane: Item 1, 102, 201(a), 202(a), 204(a), 401(a). Seaplane : Items 2, 102, 209(a), 401(b). Skiplane : Items 1, 102, 208, 210, 401(a).				

Specifications Pertinent to all Models

Datum	Front face of firewall
Leveling means	Top edge of sheet along fuselage side aft of doors
Certification basis	Type Certificate No. 5A2 Landplane: (CAR 3); Skiplane and Seaplane: (CAR 4a).
Production basis	Production Certificate No. 4
Export eligibility	Eligible for export to all countries, subject to the provisions of MOP 2-4, except as follows: (a) Canada - landplane, skiplane and seaplane - eligible.
Equipment	A Plus (+) or minus (-) sign preceding the weight of an optional item indicates the net weight change when that item is installed.

Approval for the installation of all items of equipment listed herein has been obtained by the aircraft manufacturer except those items preceded by an asterisk (*). The asterisk denotes that approval has been obtained by other than the aircraft manufacturer. An item marked with an asterisk may not have been manufactured under a CAA monitored or approved quality control system, and therefore attention should be paid to workmanship and conformity with pertinent data called for in this specification.

Propellers and Propeller Accessories for C-90 Engine Installation

1. Propeller-Sensenich 72RK-56, 74FK-51, or any other fixed pitch wood propeller which is eligible for the engine power and speed and which meets the following limits: 11 lbs. (-32)
Static rpm at maximum permissible throttle setting:
Not over 2160, not under 1900.
No additional tolerance permitted.
Diameter: Not over 74 in., not under 70.5 in.
2. Propeller McCauley 1A90-CF, 1A90-CH, or 1B90-CM with the following limits: 21 lbs. (-32)
Static rpm at maximum permissible throttle setting:
(No additional tolerance permitted.)
Landplane: Not over 2350, not under 2000.
Seaplane: Not over 2350, not under 2150.
Diameter:
Landplane: Not over 71 in., not under 69.5 in.
Seaplane: Not over 73 in., not under 69.5 in.

Propellers and Propeller Accessories for C-85 Engine Installation

- | | | |
|-------|---|---------------|
| 11. | Propeller-Sensenich 74FC-47, 74FC-49, 74FK-47, 74FK-49, or 74FK-51 or any other fixed pitch wood propeller which is eligible for the engine power and speed and which meets the following limits:
Static rpm at maximum permissible throttle setting:
Not over 2160, not under 1880.
No additional tolerance permitted.
Diameter: Not over 74 in., not under 72.5 in. | 11 lbs. (-32) |
| 12. | Propeller-McCauley 1A90-CF, 1A90-CH or 1B90-CM with the following limits:
Static rpm at maximum permissible throttle setting:
Not over 2350, not under 2050.
No additional tolerance permitted.
Diameter: Not over 71 in., not under 69.5 in. | 22 lbs. (-32) |
| 13. | Propeller-Beech Controllable, R002-100 or R003-100 series hub
R003-201-75 to -72; R003-225-75 to -72; R003-231-75 to -72; or
R003-232-75 to -72 blades. (Includes Beech mechanical propeller pitch control).
When this item is installed, metal rolls (Cessna P/N 0450103-5 and -6 or equivalent) must be installed along bottom edge of firewall.
Low pitch static rpm: Not over or under 2300.
No additional tolerance permitted.
Pitch settings at 27 in. Station: Low 13°, high 19° | 30 lbs. (-32) |
| * 14. | Propeller-Hartzell ground adjustable, HA-12UF-1 hub with 7414, 7214, or 7214M blades
Static rpm and diameter limits same as for fixed pitch wood propeller. | 18 lbs. (-32) |

Engine and Engine Accessories - Fuel and Oil System

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|--------|--|-------------------|
| 101. | Starter (Delco-Remy 1109565) | 16 lbs. (-8) |
| 102. | Carburetor air heater and mufflers | 8 lbs. (-17) |
| 103. | Carburetor air filter | 3 lbs. (-24) |
| 104. | Winterization equipment (Cessna Dwg. 0450102B)
Outside air temperature gauge per Cessna Dwg. 0411802B or equivalent required. | 1 lbs. (-29) |
| 105. | Oil filter, Fram PB-5, installed in accordance with Fram Corp. Dwg. 61528 or Cessna Dwg. 0450334. | 4 lbs. (-3) |
| 106. | Continental C-85-12, -12F, or -14F engine with the following limitations: (Eligible on landplane only)
Fuel 73 min. octane aviation gasoline
Engine limits For all operations, 2575 rpm (85 hp)
Oil capacity 4 1/2 or 5 quarts (-13)
Installation of the C-85-12 or -12F engine is the same as the C-90-12F installation except propellers (See Propellers and Propeller Accessories for C-85 Engine Installation) and power plant instrument markings. In addition, engine mount, Cessna Dwg. 0451111, must be used with C-85-14F engine. | Use actual weight |
| 107. | Continental C-90-14F engine (Limits same as for C-90-12F engine)
Engine mount, Cessna Dwg. 0451111, necessary when this engine installed. | Use actual weight |
| 108. | Two 21 gal. fuel tanks in wings (replaces two 12.5 gal. tanks) installed per Cessna Dwg. 0426004. With this item installed, fuel capacity is 42 gals. total at (+41) (18.5 gals. usable in each tank).
Fuel selector valve placard, Cessna Dwg. 0511167 or equivalent, and Item 401(c) required when this item installed. Eligible only on airplanes equipped with engines having 6 qt. capacity oil sump. (See NOTE 1 for weight of unusable fuel.) | +8 lbs. (+41) |
| 109. | Oil dilution system (Cessna Dwg. 0450336) | No weight change |
| * 110. | Controllable cowl flaps - SerVair Accessories Model SAC-100A, installed in accordance with instructions dated November 8, 1950, Amendment No. 1 dated January 24, 1951, supplied by SerVair Accessories, P.O. Box 557, Williston, North Dakota. Eligible on Serial No. 15200 and up unless Item 13 installed. | 2 lbs. (-6) |

Landing Gear

201.	Two main wheel-brake assemblies, 6.00-6 Type III:		
(a)	Goodyear Model LF6HBD Wheel assembly No. 511960-M Brake assembly No. 9520517	12 lbs.	(+18)
(b)	Goodyear Model CL6HBM (Castering) Wheel Assembly No. 9530242 and 3 Brake Assembly No. 9530368 and 9 Installed in accordance with Cessna Dwg. 0441150	30 lbs.	(+18)
202.	(a) Two main 4-ply rating tires, 6.00-6, Type III, with regular tubes	18 lbs.	(+18)
	(b) Two main 4-ply rating tires, 7.00-6, Type III, with regular tubes	+1 lb.	(+18)
	(c) Two main wheel 4-ply rating tires, 8.00-6, Type III, with regular tubes. Items 202(a), (b) and (c) eligible for use with 201(b).	+10 lbs.	(+18)
204.	Tail wheel and tire		
(a)	Scott 3-24B steerable	5 lbs.	(+217)
(b)	Maule SFS-1-2	6 lbs.	(+217)
*	(c) Scott Model 3200, steerable, swiveling (installed in accordance with Scott Bulletin No. I-168)	8 lbs.	(+217)
*	(d) Maule Model SFS-1-2-P8	7 lbs.	(+217)
	(e) Goodyear Model 95-0843 8-inch wheel with pneumatic tire in accordance with Cessna Dwg. No. 0542110	6 lbs.	(+217)
208.	Ski installations:		
(a)	Two Federal A-1500 according to Cessna Dwg. No. 0441102	32 lbs.	(+15)
*	(b) Two Woychik R-1 according to Woychik Dwgs. Nos. 1, 2, and 3 (22 psi tire pressure required)	42 lbs.	(+14.5)
*	(c) Federal AWA-1500 Wheel-Ski, Federal Instl. Dwg. 11R395A Eligible with mechanical conversion on ground only. Note: Weight and balance shall be checked with ski in retracted and extended positions. Not eligible with Item 202(c) installed.	+35 lbs. Retracted (+16)	Extended (+19.5)
*	(d) Federal AWB-1500 Wheel-Ski, Federal Instl. Dwg. 11R549 Eligible with hydraulic conversion on ground and in flight. Note: Weight and balance shall be checked with ski in retracted and extended positions. Not eligible with Item 202(c) installed. Placard required: "Do Not Extend or Retract Skis While in Motion on the Ground."	76 lbs. Retracted (+11.5)	Extended (+14)
*	(e) Federal AWB-1500A Wheel-Ski, Federal Instl. Dwg. 11R896 Eligible with hydraulic conversion on ground and in flight. Note: Weight and balance shall be checked with ski in retracted and extended positions. Not eligible with Item 202(c). Placard required: "Do Not Extend or Retract Skis While in Motion on the Ground."	84 lbs. Retracted (+11.5)	Extended (+14)
*	(f) Woychik Model R-1A according to Woychik Aircraft Equipment (Middleton, Wisc.) Dwgs. 1 through 5 (32 psi tire pressure required). Airplane Flight Manual Supplement dated February 27, 1952 is required	58 lbs.	(+13)
*	(g) Federal AWB-2100 Wheel-Ski, Federal Instl. Dwg. 11R1100 Eligible with hydraulic conversion on ground and in flight. Note: Weight and balance shall be checked with ski in retracted and extended positions. Not eligible with Item 202(c). Placard required: "DO NOT EXTEND OR RETRACT SKIS WHILE IN MOTION ON THE GROUND."	93 lbs. Retracted (+11)	Extended (+14.5)
209.	Float installation		
(a)	Two Edo 88-1650 according to Cessna Dwg. No. 0441100	208 lbs.	(+32)
*	(b) Two Edo 92-1400 according to Edo Dwgs. No. 06704 and No. 06822. This item eligible for approval for a maximum weight of 1474 lbs. only.	174 lbs.	(+33)
210.	Tail ski installation, one Federal AT-1500 according to Cessna Dwg. No. 0441102	3 lbs.	(+214)
211.	Two wheel streamlines per Cessna Dwg. 0441143. Not eligible with Item 202(b) or 202(c)	6 lbs.	(+18)
*	212. Two "no drag" wheel fenders per Liquid Tool Co., Box 299, Morrow, Ohio, Dwg. 105	8 lbs.	(+19)
*	213. Geisse Safety Gear according to St. Louis Machine Co. Dwgs. 1 and 2 and instructions dated May 5, 1953 (Revised October 8, 1953). Not eligible with Items 201(b), 208, 209, 210, 211 02 212 installed.	12 lbs.	(0)

Electrical Equipment

301.	Generator (Delco-Remy 1101876)	10 lbs.	(-7)
302.	Battery - 12 volt, 24 amp. hr.	24 lbs.	(+75)
303.	Landing light - G.E. 4509, Cessna Dwg. 0426000	2 lbs.	(+28)

Interior Equipment

401.	CAA Approved Airplane Flight Manual and pertinent revisions applicable to the particular model and serial number. (a) Landplane and skiplane (b) Seaplane (c) Pipeline Patrol Version (Item 406) Approved September 13, 1949.		
402.	Cabin heater		
403.	Jump seat installation, Cessna Dwg. 0413202 (Kit No. 52-3-103C). The compartment must be placarded for the weight determined by the weight and balance computations except that the total weight shall not exceed 80 lbs. C.G. of passenger in jump seat is at (+64)	2 lbs.	(-10)
		6 lbs.	(+64)
404.	International flares, 3 Mark I - 1 1/2 min.	18 lbs.	(+67)
405.	Blind flight cover, Cessna Dwg. 0413267	4 lbs.	(+5)
406.	Provision for pipeline patrol according to Cessna Dwg. 0411914, Door Assembly (addition of lower window), +1 lb. at (+37); Dwg. 0411915, Message Drop Tube +1 lb. at (+18), and 21 gal. Fuel Tanks, Item 108, +8 lbs. at (+41).		

Miscellaneous (Not Listed Above)

601.	Two stabilizer abrasion boots, Cessna Dwg. 0432161, installed per Cessna Dwg. 0432000.	2 lbs.	(+181)
* 602.	Woychik retractable lifting handles according to Woychik Aircraft Equipment (Middleton, Wisc.) Dwg. 50 & 50A.	13 ozs.	(+134)

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions, when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system).

The certificated weight empty and corresponding center of gravity location must include unusable fuel of 24 lbs at (+42) when two 12.5 gal. tanks are installed or 30 lbs. at (+39) when two 21 gal. tanks (Item 108) are installed. (Above values are included in total fuel capacity.)

NOTE 2. The following placards must be displayed in front of and in full view of the pilot:

- (a) "THIS AIRPLANE MUST BE OPERATED AS A UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH THE FLIGHT MANUAL.

- UTILITY -

NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED IN THE FLIGHT MANUAL"

- (b) "RETRACT WATER RUDDER BEFORE TAKE-OFF AND LANDINGS"
(Applicable seaplane only.)

- (c) For those aircraft with Item 208(d) or (e) installed:
"Do Not Extend or Retract Skis While in Motion on the Ground."

NOTE 3.

“WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.”

...END...